Product Change Notification / CADA-02KPFT899

Date:

21-Dec-2022

Product Category:

Clock and Timing - Clock and Data Distribution

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5046 Final Notice: Qualification of G700LA as a new mold compound material for selected MAX24x8x device family available in 68L WQFN (8x8x0.8mm) package assembled at ASCL assembly site

Affected CPNs:

CADA-02KPFT899_Affected_CPN_12212022.pdf
CADA-02KPFT899_Affected_CPN_12212022.csv

Notification Text:

PCN Status: Final Notification

PCN Type: Manufacturing Change

Microchip Parts Affected: Please open one of the files found in the Affected CPNs section.
Note: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

Description of Change: Qualification of G700LA as a new mold compound material for selected MAX24x8x device family available in 68L WQFN (8x8x0.8mm) package assembled at ASCL assembly site

Pre and Post Change Summary:

	Pre Change	Post Change

Assembly Site	ASE Group Chung-Li (ASCL)	ASE Group Chung-Li (ASCL)
Wire Material	PdCu/ Cu	PdCu/ Cu
Die Attach Material	EN-4900GC	EN-4900GC
Molding Compound Material	CEL-9240HF10AC	G700LA
Lead-Frame Material	C194	C194

Impacts to Data Sheet: None

Change Impact None

Reason for Change: To improve manufacturability by qualifying G700LA as a new molding compound material.

Change Implementation Status: In Progress

Estimated First Ship Date: January 20,2023 (date code: 2303)

Note: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

Time Table Summary:

	April 2022					**>**	**December 2022**					**January 2023**				
Workweek	14	15	16	17	18		49	50	51	52	53	1	2	3	4	5
Initial PCN Issue Date		x														
Qual Report Availability										x						
Final PCN Issue Date										x						
Estimated Implementation Date														x		

Method to Identify Change: Traceability code

Qualification Report: Please open the attachments included with this PCN labeled as PCN_#_Qual_Report.

Revision History: April 5, 2022: Issued initial notification.

December 21, 2022: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on January 20, 2023.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

Attachments:

PCN_CADA-02KPFT899 Qual_Report.pdf

Please contact your local Microchip sales office with questions or concerns regarding this notification.

Terms and Conditions:

If you wish to receive Microchip PCNs via email please register for our PCN email service at our PCN home page select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the PCN FAQ section.

If you wish to change your PCN profile, including opt out, please go to the PCN home page select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.

Affected Catalog Part Numbers (CPN)

MAX24188ETK2
MAX24188ETK2T
MAX24287ETK2
MAX24287ETK2T
MAX24288ETK2
MAX24288ETK2T

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: CADA-02KPFT899

Date:
December 7, 2022

Qualification of G700LA as a new mold compound material for selected MAX24x8x device family available in 68L WQFN (8x8x0.8mm) package assembled at ASCL assembly site

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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of G700LA as a new mold compound material for selected MAX24x8x device family available in 68L WQFN (8x8x0.8mm) package assembled at ASCL assembly site
CN	E000098214
QUAL ID	R2200797 Rev A
MP CODE	X01417MLCA02
Part No.	MAX24287ETK2
Bonding No.	BD-000487 Rev.01
CCB No.	5046
Package	
Type	68L WQFN
Package size	8 x 8 x 0.8 mm
Lead Frame	
Paddle size	262 x 262 mils
Material	C194
Surface	Double ring
Process	Etched
Lead Lock	No
Part Number	0068QN033F01
Material	
Epoxy	EN-4900GC
Wire	CuPd wire
Mold Compound	G700LA
Plating Composition	Matte Sn

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
ASCL225200007.000	TC12921476017.100	2212J8E
ASCL225200008.000	TC12921476017.100	2212J91
ASCL225200009.000	TC12921476017.100	2212J9M

Result [X] Pass [ ] Fail [ ] _____

68L WQFN (8x8x0.8 mm) assembled by ASCL pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 3 at 260°C reflow temperature per IPC/JEDEC J-STD-020E standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Precondition Prior Perform Reliability Tests (At MSL Level 3)	**Electrical Test:** +25°C and 85°C System: FUSION_MX_TIM_GTO	JESD22-A113	693(0)	0/693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE	JIP/ IPC/JEDEC J-STD-020E		0/693		
	30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH			0/693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			0/693		
	Electrical Test: +25°C and 85°C System: FUSION_MX_TIM_GTO		693(0)	0/693	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	**Stress Condition:** -65°C to +150°C, 500 Cycles System: TABAI ESPEC TSA-70H	JESD22-A104		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +85°C System: FUSION_MX_TIM_GTO		231(0)	0/231	Pass	77 units / lot
	Bond Strength:		15(0)	0/15	Pass	
	Wire Pull (> 2.50 grams)					
	Bond Shear (>15.00 grams)		15(0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: FUSION_MX_TIM_GTO		231(0)	0/231	Pass	77 units / lot
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 1.20 Volts System: HAST 6000X	JESD22-A110		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C and 85°C System: FUSION_MX_TIM_GTO		231(0)	0/231	Pass	77 units / lot

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs. System: SHEL LAB	JESD22-A103		0/135		45 units / lot
	Electrical Test: +25°C and 85°C System: FUSION_MX_TIM_GTO		135(0)	0/135	Pass	
Solderability **Temp 245°C**	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping:Solder Temp.245°C Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22(0)	0/22 0/22 0/22	Pass	
Physical Dimensions	Physical Dimension, 10 units / 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (>8.00 grams)	Mil. Std. 883-2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	CDF-AEC-Q100-001	30 (0) bonds	0/30	Pass	